REMARKS

This application has been carefully reviewed in light of the Office Action dated March 16, 2010. Claims 1, 3, 4, 7, 8, 10 and 11 are pending in the application. Claims 1 and 11 are the independent claims. Reconsideration and further examination are respectfully requested.

Claims 1, 3, 4, 7, 8, 10 and 11 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 7,131,124 (Hanyu), U.S. Publication No. 2002/0018665 (Muto) and U.S. Publication No. 2003/0093612 (Ootani). Reconsideration and withdrawal of this rejection are respectfully requested.

Independent Claims 1 and 11 generally concern data transfer between a first controller which controls an engine section for forming an image and a second controller which transmits image data to the first controller. The engine section includes a nonvolatile memory which is rewritten by rewrite data transmitted from the second controller.

According to aspects of Claims 1 and 11, in a rewrite mode, when the rewrite data is transmitted from the second controller to the first controller, there is synchronization of data communication from the second controller to the first controller, by repeatedly notifying the second controller of a first condition which indicates that the first controller cannot receive data following the current data since the first controller is rewriting data, and a second condition which indicates that the first controller can receive the data following the current data.

By virtue of this arrangement, it is ordinarily possible to synchronize a rewrite operation without using a separate private data line. In particular, the same report signal line used to report status changes in the engine can also be used to synchronize data transmission for the rewrite operation.

Referring specifically to claim language, independent Claim 1 is directed to a data transfer method between a first controller which controls an engine section for forming an image and a second controller which transmits image data to the first controller. The engine section includes a nonvolatile memory. In an image forming operation mode of forming an image with the engine section, the method includes notifying the second controller of a condition change of the engine section by the first controller by changing a signal level of a report signal line from a first level to a second level, transmitting a condition request instruction by the second controller to the first controller via a data signal line in response to the notifying of the condition change, while the signal level of the report signal line is at the second level, and transmitting condition information by the first controller to the second controller via the data signal line in response to the condition request instruction, after the signal level of the report signal line is returned to the first level. In a rewrite mode of rewriting the nonvolatile memory, the method includes transmitting a rewrite instruction by the second controller to the first controller via the data signal line while the signal level of the report signal line is at the first level, transmitting rewrite data by the second controller to the first controller via the data signal line in response to the rewrite instruction while the signal level of the report signal line is at the first level, notifying the second controller that the first controller is not ready for reception of the rewrite instruction or the rewrite data by changing the signal level of the report signal line from the first level to the second level, and rewriting the nonvolatile memory of the engine section by the first controller by the rewrite data transmitted from the second controller. In the rewrite mode, when the rewrite data is transmitted from the second controller to the first controller, data communication from the second controller to the first controller is synchronized by repeatedly notifying the second controller of a first condition which indicates that the first controller cannot receive data

following the current data since the first controller is rewriting data, and a second condition which indicates that the first controller can receive the data following the current data.

Independent Claim 11 is directed to an apparatus substantially in accordance with the method of Claim 1.

The applied art is not seen to disclose or suggest the features of Claims 1 and 11, and in particular is not seen to disclose or suggest at least the feature of synchronizing data communication from a second controller to a first controller in a rewrite mode when rewrite data is transmitted from the second controller to the first controller, by repeatedly notifying the second controller of a first condition which indicates that the first controller cannot receive data following the current data since the first controller is rewriting data, and a second condition which indicates that the first controller can receive the data following the current data.

In that regard, page 5 of the Office Action concedes that Hanyu and Muto do not disclose notifying a second controller that a first controller is not ready for reception of a rewrite instruction or rewrite data by changing a signal level of a report signal line from a first level to a second level, rewriting a nonvolatile memory while the first controller is not ready for reception of the rewrite instruction or the rewrite data, and returning the signal level of the report signal line to the first level when the first controller is prepared for the reception of the rewrite instruction or the rewrite data.

Applicant agrees, and submits that it logically follows that Hanyu and Muto also do not disclose synchronizing data communication from a second controller to a first controller in a rewrite mode when rewrite data is transmitted from the second controller to the first controller, by repeatedly notifying the second controller of a first condition which indicates that the first controller cannot receive data following the current data since the first controller is

rewriting data, and a second condition which indicates that the first controller can receive the data following the current data.

Nevertheless, the Office Action relies on Ootani (Figure 5 and paragraphs [0044] to [0047], [0053] and [0056] to [0060]) for the features missing from Hanyu and Muto.

As understood by Applicant, Ootani is directed to rewriting flash memory. A CPU, a flash memory control circuit and a flash memory are connected to a bus. When a rewriting operation is performed in the flash memory, a signal indicating a busy state (RYIBY signal is "L") is output from the flash memory to the flash memory control circuit. The flash memory control circuit outputs a hold signal (HOLD is active "H") to the CPU to inhibit data transmission in response to the busy state. When the rewriting operation is not performed, the busy state is changed to a ready state (RYIBY signal is "H"), and the flash memory control circuit outputs the hold signal (HOLD is inactive "L") to the CPU to permit data transmission. See Ootani, Abstract, Figure 5 and paragraphs [0044] to [0047], [0053] and [0056] to [0060].

Thus, as understood by Applicant, Ootani simply inhibits or permits data transmission in accordance with whether or not a flash memory is busy. Ootani is not seen to synchronize data transmission with the busy signal, much less synchronize data communication from the second controller to the first controller in a rewrite mode when rewrite data is transmitted from the second controller to the first controller, by repeatedly notifying the second controller of a first condition which indicates that the first controller cannot receive data following the current data since the first controller is rewriting data, and a second condition which indicates that the first controller can receive the data following the current data.

Therefore, independent Claims 1 and 11 are believed to be in condition for allowance, and such action is respectfully requested.

The other claims in the application are each dependent from the independent claims and are believed to be allowable for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of the claims, the individual consideration of each on its own merits is respectfully requested.

No other matters being raised, it is believed that the entire application is fully in condition for allowance, and such action is courteously solicited.

Applicant's undersigned attorney may be reached in our Costa Mesa, California office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

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